M/037/0088
cc! Tom

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Moab Field Office
82 East Dogwood
Moab, Utah 84532

TAKE PRIDE IN AMERICA

RECEIVED
JUN 18 2012
DIV. OF OIL, GAS & MINING

3809
UTU-72499
(UTY012)

CERTIFIED MAIL #7011 1150 0000 0359 8050
RETURN RECEIPT REQUESTED

JUN 14 2012

Lantz Indergard
Lisbon Valley Mining Company LLC
755 North Main Street, Suite B
Moab, Utah 84532

RE: USGS Information Request

Dear Mr. Indergard:

As you know, the BLM has an Interagency Agreement with the United States Geological Survey (USGS), to assess Lisbon Valley Mining's groundwater model in relation to potential pit backfills. The USGS reviewed all of the existing analytical data and have provided their comments and identified more information that would be helpful for them to have in order for them to complete their assessment. We assume that some of the information Lisbon Mining may already have available, but there may be some water sampling needs and other items listed that the BLM would coordinate with Lisbon Mining and the USGS to obtain. Below are the comments from the USGS and an outline of information they need to continue their assessment. Attached are the two USGS technical reports that provide their reasoning as to why the information is needed in order to continue their review:

Groundwater Model

1. Results from the current model by Adrian Brown Consultants Inc. (1996) in the form of water budgets for each of the post-mining pit lakes are required to construct a coupled flow/geochemical model. The Sentinel Pit budget is presented in the modeling results document (p. 24) but only provides the post-mining pit lake area and the resulting groundwater infiltration to lower units. A complete budget analysis that provides the values for all the budget components (shown in the schematic on p. 21) is needed for all the post-mining pit lakes. The simulated water budget components for the pit lakes include: post-mining pit lake area and volume, groundwater infiltration to lower units, groundwater discharge to the pit lake, precipitation, evaporation, and surface run-off inputs.

2. Modifying the model to simulate a backfilling scenario would only require modification to the material properties (specific storage, hydraulic conductivity) used for the mine pit voids to reflect the properties of unconsolidated backfill. This would be an additional simulation beyond current transient runs that would use the ending model outputs as starting heads equivalent to proposed backfilling commencement dates.

3. In addition to modification, particle tracking for water passing through backfilled pits would be useful in assessing the residence time of groundwater in backfilled material. This would also be useful in predicting travel times of water that will pass through backfilled materials

Geochemistry

1. The minimum detection limit for vanadium in the chemical analyses is 30 µg/L. This MDL is too high. An analytical method with a lower MDL (< 1 µg/L) should be used to analyze future samples for vanadium concentration. If possible, a lower MDL for dissolved iron should also be considered.

2. Field parameters, including water temperature, dissolved oxygen, oxidation –reduction potential (ORP), specific conductance, and pH need to be collected using approved methods and with instruments that have been calibrated the day of sample collection. These parameters are critical for subsequent geochemical modeling. If the Lisbon Valley Mining is unfamiliar with the collection or equipment needed for the collection of the field parameters described above, technicians in the USGS Moab field office may be able to assist. We would time to coordinate with the USGS, but they have offered their services to help.

3. Based on the geochemical modeling results, it is likely that alkalinity was determined in the laboratory and not the field. Because of the importance of bicarbonate in forming complexes with uranium, it is important to obtain accurate alkalinity concentrations and the most accurate alkalinity values are determined from titrations immediately after sample collection. If the mine operator is not familiar with alkalinity titrations in a field setting, assistance can be obtained from USGS technicians in the Moab field office.

4. No phosphorus data were included in the laboratory analysis of the Penny Pit Pool water sample. Since phosphorus species form important complexes and solid-phase precipitates with uranium, it is important to include both total phosphorus and orthophosphate in future analytical schedules.

5. Data needs for additional analysis of pit pool geochemistry include: (a) additional water and mineralogical analyses of existing pit pools that include the missing data identified in previous comments; (b) coupling of groundwater flow into pit pools with PHREEQC modeling to better understand reaction progress; (c) small-scale field experiments to better calibrate the PHREEQC evaporation model.

6. Results of Lisbon Valley's post mining groundwater chemistry assessment.

If possible, please provide a response no later than June 29, 2012. If you have any questions, please contact Rebecca Doolittle in person at 82 East Dogwood, Moab, Utah, 84532 or by telephone at (435) 259-2141. Thank you.

Sincerely,

/s/ Lisa Bryant

acting for

Jeffrey R. Smith
Field Manager

Enclosures:

1. USGS, Tom Marston, *Technical review and geochemical modeling of pit water collected from Lisbon Valley Copper Mine.*
2. USGS, David Naft, *Technical review and geochemical modeling of pit water collected from Lisbon Valley Copper Mine*

cc. Munson/DOGM